Anti-relevant, contra-iconic but system-adequate: on unexpected inflectional changes

CHAPTER 9

Anti-relevant, contra-iconic but system-adequate

On unexpected inflectional changes

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Several universal principles have been suggested that are supposed to limit the possible shape of inflectional systems, such as the Principle of Iconicity and the Principle of Relevance. The paper presents two case-studies which clearly falsify the expectations arising from these two principles and cry for an explanation. This has to be sought in a conflict between general principles limiting the universal degree of variation tolerated by inflectional systems and System Adequacy, namely the tendency of an inflectional system of improving its internal consistency. The result is a more economic, i.e. less costly, representation of morphological information, at the expense of the violation of the universal principles caused by contra-iconic and anti-relevant coding strategies.

Keywords: morphology, inflection, iconicity, relevance

1. Introduction

Historical linguists have constantly invested much effort in trying to figure out and identify scenarios of language change which were meant to be general enough to make predictions on what is reasonable to happen given certain known circumstances. In the best possible conditions, such scenarios usually profile a situation in which a change – and specifically: a morphological change – takes place in a systematic way by moving from a synchronically ordered variation between possible alternatives to another similarly ordered stage, as we can read in Henning Andersen's (2010: 118) deservedly popular handbook chapter:

> whenever a change occurs at some historical stage, provided the attestation is sufficiently ample, it invariably shows that **morphological change proceeds through stages of ordered variation**. (my emphasis)

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In this vein, the stages of ordered variation are expected to drive towards certain preferred states of affairs:

> Expression changes … may be **adjustments of existing expressions for existing grammatical content**, changes in the shape of expressions (including syncretism) or in their morphosyntax. (Andersen 2010: 133, my emphasis)

The historical linguists' widespread usage of expressions like "adjustment", "improvement", and similar, clearly manifest the idea that language change is oriented towards a resulting state of affairs which is preferred or simply better from a systemic point of view than the original situation.

A classic example is provided by the case of the Slavic plural genitive which is also discussed by Andersen in the mentioned handbook chapter. Due to the effect of phonological change, three cases in the Common Slavic *o*-declension became homonymous, namely the NOM.SG, ACC.SG and GEN.PL *-ŭ*/*-ĭ*, in contrast with the *u*-declension which distinguished a different form for the GEN.PL *-ovŭ*/*-evŭ*. Notice that despite the very low lexical frequency of *u*-declension nouns, the longer *u*-declension GEN.PL *-ovŭ*/*-evŭ* became early established as a productive allomorph for nouns of both original declensions. After the loss of the word-final /-ŭ/ and /-ĭ/, the opposition is remodeled in terms of a zero morpheme of the NOM.SG (and ACC.SG) contrasting with the two GEN.PL allomorphs -Ø and *-ov*/*-ev*. In this regard, Greenberg (1969) infers that the consistent developments documented in several Slavic languages extending the use of the overt GEN.PL allomorph in paradigms where the NOM.SG is -Ø has to be explained in terms of a relation between the -Ø and the overt expression diagramming the relation in content between the unmarked NOM.SG and the marked GEN.PL. In a similar way, the ordered variation resulting from the earlier spread of the GEN.PL *-ovŭ*/*-evŭ* allomorphs found before the loss of the word-final short vowels is likely explained by "an identical diagrammatic relation between shorter vs. longer expression and unmarked vs. marked content" (Andersen 2010: 138).[1]

Such a principle of diagrammatic coding is one of the several manifestations of iconicity and roughly contains the following claim (cf. Dressler 2000a):

> **Principle of diagrammatic coding I (Iconicity)**:
> More content is expected to be coupled with more expression

In obedience to this principle, we can represent the change sketched above as a general reduction of markedness $>_{\text{MarkRed}}$ restoring iconicity:

1. One reviewer draws attention on Haspelmath's (2006, 2014) recent work on the relevance of frequency against iconicity for accounting for the emergence of asymmetric coding of the sort discussed here. However, given the low frequency of the genitive forms *-ovŭ*/*-evŭ* observed above their extension can only be explained by what Haspelmath calls system pressure. In spite of a certain vagueness of the latter notion as recognized by Haspelmath himself, it can be compared to what will be discussed below under system adequacy.

(1) -Ø/NOM.SG & -Ø/GEN.PL >$_{\text{MarkRed}}$ -Ø/NOM.SG & *-ov*|*-ev*/GEN.PL

A second manifestation of diagrammatic coding is rooted in the so-called principle of relevance. As is well known, the latter claims that "[a] meaning element is relevant to another meaning element if the semantic content of the first directly affects or modifies the semantic content of the second" (Bybee 1985: 13). This provides the rationale for assuming a general expectation for the diagrammatic coding:

> These results suggest a "diagrammatic" relation between the meanings and their expression, such that the "closer" (more relevant) the meaning of the inflectional morpheme is to the meaning of the verb the closer its expression unit will occur to the verb stem. (Bybee 1985: 35)

On this basis, we can formulate the following principle:

> **Principle of diagrammatic coding II (Relevant Order):**
> The order of the affixes with respect to the lexical stem is expected to obey the principle of relevance.

According to this, the expected sequence for the occurrence of morphological marker with respect to the verb stem is as follows (cf. Bybee 1985: 34–35):

(2) Valence > Aspect > Tense > Mood > Person

In other words, morphological markers connected with valence modification are expected to occur closer to the verb stem than markers connected with aspect, the latter should be closer than those connected with tense and so forth following the hierarchy portrayed in (2).

Empirical evidence of the diachronic efficacy of this principle can be found in the resolution of the so-called "trapped morphemes" (cf. Haspelmath 1993; Andersen 2010). For instance, in Spanish due to the cliticization and subsequent agglutination of a reflexive marker (which is clearly to be connected with valence modification) a violation of the hierarchy arises, insofar as the valence marker turns out to be external with regard to the person marker:

(3) a. Sp. *siént-e-n-se* "sit-SBJV-3PL-REFL"
b. Subst. Sp. *siént-e-*(*n*-)*se-n* "sit-SBJV-(3PL-)REFL-3PL"
c. Subst. Sp. *siént-e-se-n* "sit-SBJV-REFL-3PL"

Morphological change occurring in substandard varieties restores the Relevant Order via the doubling of the valence marker in an internal position and its subsequent drop in final position. Even though the predicted order is not yet accomplished, however, there is a clear improvement with respect to the original state of affairs, in which the valence marker was completely peripheral. Also in this case, the morphological change can be represented in terms of a markedness reduction >$_{\text{MarkRed}}$, though only partial with respect to the Principle of Relevant Order:

(4) Verb$_{\text{Stem}}$-[…]-PERS-VAL >$_{\text{MarkRed}}$ Verb$_{\text{Stem}}$-[…]-VAL-PERS

We can capture the common teleology underlying both the Slavic and the Spanish case by means of the following Diachronic Maxim (cf. Dressler 2000a: 293) which entails that naturalness be the inverse of markedness:

> **Diachronic Maxim**: "[I]n diachronic change, more natural options should be more stable than less natural ones on one and the same naturalness parameter, and the direction of morphological change should be preferably towards more morphological naturalness".

This maxim lays down the hypothesis that every morphological change is deemed to respond to the teleology of markedness reduction. Accordingly, if for some reason a marked state of affairs arises, morphological change is expected to restore the unmarked or natural state of affairs, in our case in obedience to the principles of diagrammatic coding.

It is important to stress that it is not synchronic markedness – independently of how it comes into being – that violates the principle, but rather morphological changes taking place in clear contrast with the principles of diagrammatic coding. Only the latter can be defined as unexpected insofar as they expressly act against the principles of diagrammatic coding in an arguably productive way. This latter specification makes reference to the expansive force of a change going beyond the original context. In the next sections we will ask whether cases can be found which apparently run against the principles introduced above and therefore qualify as unexpected morphological changes. In particular, with regard to the two principles of diagrammatic coding discussed above, we treat as unexpected the expansion of contra-iconic coding in which a semantically more complex form is coded by less phonological content against the Principle of Iconicity and the expansion of anti-relevant coding in which a morpheme order in neat contrast with the Principle of Relevant Order is extended at the expense of a relevance-obeying sequence.

2. Against iconicity

As for morphological changes introducing contra-iconic coding, their occurrence is denied insofar as the rise of contra-iconic coding is usually explained as a synchronic mismatch due to the non-morphological reasons, namely phonological change, which is subsequently eliminated (cf. Dressler 2000b for an overview). For instance, the subtractive coding of noun plural found in Hessian German, e.g. *hond*/*hon* "dog(s)", is due to the stop deletion after nasal normally occurring in this as well as in other dialects when the stop was followed by a vowel. This brought about an alternation *hund*/*hun*[ə] "dog(s)" in the plural marking found in the cognate variety of Thuringian German (cf. Schirmunski 1962: 416). The subtractive plural found in Hessian is due to the subsequent final schwa deletion. In this regard, Dressler (2003: 464) observes that this way of plural marking "has become unproductive and loses items to diagrammatic additive plural formation". Besides the fact that Golston and Wiese (1996: 146) note that "the

phenomenon is a stable one" in these varieties, the occurrence of subtractive coding is not relevant per se against the Diachronic Maxim sanctioning the parasitic status of contra-iconic coding. In fact, in Hessian subtractive coding happened to be there because of phonological change and was not subsequently extended to other nouns such as for instance *lofd* "wind" / *lofd* "winds" and not **lof*, *wošd* "sausage" / *wošd* "sausages" and not **woš*, etc. In other words, it was not newly introduced in other nouns as the result of morphological change. Thus, this case does not falsify the Diachronic Maxim aiming at markedness reduction as a consequence of morphological change.

While the Hessian plural is not problematic from a truly diachronic perspective, it does matter from a purely synchronic viewpoint. In fact, the Hessian example clearly falsifies the Principle of Iconicity as it is recorded in the Universals Archive (cf. Plank 2009) in the following standardized form:

> **Universal 583**: "If morphemes are semantically less complex than others, then they will not systematically be more complex in phonetic form than these".

The credited source is Lehmann (1974), and the U583 is considered achronic and absolute, no counterexample being provided. Since this claim is made in purely synchronic terms, the Hessian plural clearly falsifies the absolute nature of the U583 which has to be downgraded to a statistical universal.

However, a clear-cut example falsifying the Diachronic Maxim above comes from Milanese, the city dialect of Milan (cf. Salvioni 1975; Massariello Merzagora 1988). Here, the nominal system has developed towards a complex set of at least six different Inflectional Classes (= ICs), which are distinguished on the basis of inherent properties like [± MASCULINE] gender, /a/ phonological ending and the referential trait of [ANIMACY]:

Table 1. The noun classes in Milanese

	IC-1		IC-2	IC-3	IC-4	IC-5	IC-6
Inherent properties	[+M]	[−M]	[+M] [+ANIM]	[+M]	[+M]	[−M] [+ANIM]	[−M] /a/#
SG	*el mur*	*la rɐd*	*el scior*	*el basin*	*el cavɛl*	*la sciora*	*la scala*
PL	*i mur*	*i rɐd*	*i sciori*	*i basitt*	*i cavɛj*	*i sciori*	*i scal*
Gloss	"wall"	"net"	"mister"	"kiss"	"hair"	"lady"	"staircase"

The ICs display any possible morphological coding: (i) iconic coding: additive plural in IC-2 *scior*/*scior-i*; (ii) non-iconic coding: zero plural in IC-1: *mur*/*mur*, *rɐd*/*rɐd*; substitutive coding in IC-3: *bas-in*/*bas-itt*, IC-4: *cavɛ-l*/*cavɛ-j* and IC-5: *scior-a*/*scior-i*; and (iii) contra-iconic: subtractive coding in IC-6: *scal-a*/*scal*. Similar to the Slavic case seen in §1 above, the occurrence of subtractive coding is due to a phonological change which happened to delete all unstressed final vowels but /a/: Lat. MŪRU(M)/MŪRĪ "wall(s)" > Mil. *mur*/*mur*, SCĀLA(M)/SCĀLAE "staircase(s)" > *scala*/*scal*. Notice that the plural marking *-i* has been reintroduced in Milanese in association with the

IC-2 and IC-5 containing animate nouns, which however are not exclusively associated with these ICs.[2]

While iconic coding is restricted only to the IC-2 which is fairly well individuated by means of masculine gender and animacy, the occurrence of the article helps the speakers identify the gender in the singular and can therefore be assigned the status of a system-defining structural property of the Milanese noun classes, which is of paramount importance to establish what is normal in the inflectional system of Milanese. On the other hand, gender is completely neutralized in the plural since the articles are identical for all classes and both genders. This is particularly relevant for the IC-1 which is the largest class and the only one to include both masculine and feminine nouns. In this class, gender – neutralized in the plural as in the other ICs – can be inferred in the singular only thanks to the article and more in general the determiners, while in the other classes other properties are of help. In the quite small IC-3 and IC-4 plural marking, which is encoded via substitutive markers, allows the speakers to infer the gender because these classes contain only masculine nouns. In the other three ICs, gender clusters with other properties, namely with animacy in the IC-2 and the IC-5 where the plural marking *-i* occurs, and with the *a*-ending in the IC-5 and the IC-6, which contain only feminine nouns.

Against what might have been the expectation following from the Diachronic Maxim, the IC-6 displaying subtractive coding has acquired newcomers such as *carna*/*carn* "meat(s)" and *vɛsta*/*vɛst* "dress(es)" which go back to the Latin ancestors CARNE(M)/CARNĒ(S) and VESTE(M)/VESTĒ(S) and are accordingly expected to appear as **carn*/*carn* and **vɛst*/*vɛst*, similarly to *rɛd*/*rɛd* of the IC-1. Furthermore, this plural is deemed to be productive as it has been extended to loans from Italian like *critica*/*critich* "criticism(s)", *idɛa*/*idɛj* "idea(s)" adapted to the pattern of *brudaja*/*brudaj* "slop(s)", etc.[3]

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2. The inflectional system represented here is slightly simplified insofar as a number of additional plural types occur which can be comprised under the IC-1 or the IC-4 if the allomorphic differences are abstracted away. For instance, nouns ending with stressed vowels are assigned to the IC-1 (e.g. *fió* "son", *gabarè* "tray", etc.) while in the IC-4 several different allomorphic types were attested which have been later regularized to the IC-1 such as *dɛnt*/*dinʃ* "tooth/teeth" or to the IC-4 like *usɛl*/*usij* "bird(s)", nowadays respectively *dɛnt*/*dɛnt* and *usɛl*/*usɛj*. Finally, the few vowel-ending masculine nouns are assigned either to the IC-2 (e.g. *cɛto*/*cɛti* "social class(es)", *deto*/*deti* "saying(s)") or to the IC-1 (*gisa* "traffic warden(s)", *regolisi* "licorice(s)", etc.). In addition, with regard to the description provided by Salvioni which goes back to the end of the nineteenth century a certain number of nouns have been adopted by the dialect coming from Italian, which has partially modified the picture (see Massariello Merzagora 1988). In particular, a number of vowel-ending masculine nouns have entered the dialect carrying along the Italian inflection such as *artista*/*artisti* "artist(s)", *erede*/*eredi* "heir(s)", etc.

3. One anonymous reviewer contends that the phonological change leading to the deletion of final unstressed vowels was preceded by the inflectional class shift of **vɛstə*/**vɛsti* to **vɛsta*/*vɛsti*. Accordingly, the "contra-iconic effect is just a secondary result of the phonological change" which deleted the final vowels. As evidence, the large diffusion of this inflectional class shift in the Romance varieties is mentioned. While the latter is true, it does not necessarily speak against the interpretation provided here. In fact, even a traditional reference work like Rohlfs (1968) suggests that in the Northern dialects

Despite the violation of the Principle of Iconicity and the corresponding Diachronic Maxim, the rationale of this change has to be seen in a better coupling of the inherent lexical properties of the nouns and the plural formation. While in a noun like *red* the detection of the feminine gender – and therefore the article selection – is difficult because nothing expresses it overtly, the introduction of subtractive coding presents the advantage of immediately revealing the feminine gender given that the *a*-ending is clearly coupled with feminine nouns in IC-5 and IC-6. In this way, the reach of the following Paradigm Structure Condition (= PSC) holding that feminine nouns ending with /a/ form their plural by Vowel Deletion (= VD) is enlarged attracting nouns expected to belong to the IC-1:

(5) $PSC_{IC\text{-}6}: \begin{bmatrix} N \\ \text{-M} \\ /a/\# \end{bmatrix} \supset [\text{PL/VD}]$

Given the better coupling of inflectional classes with the extra-morphological properties of gender and *a*-ending, the effect of the contra-iconic change is to increase the overall congruity of the IC with the inflectional system, i.e. its System Adequacy. In the shade of Wurzel (1987: 65–66), the latter can be intended in agreement with the Diachronic Maxim in the following dynamic terms:

> **System Adequacy**: The tendency of an inflectional system of improving its internal consistency by increasing the strength of its system-defining structural properties, in particular via the extra-morphological motivation of ICs.

Especially in highly complex inflectional systems the PSCs help the speakers keep the morphological complexity under control by making reference to extra-morphological properties in the form of implicative relations. Only extra-morphologically motivated ICs are predicted to be stable and to expand acquiring newcomers from other ICs. This is what happened to the IC-6 in which the reach of the contra-iconic subtractive marking was expanded by adding a final /a/ to the singular form because of the clear $PSC_{IC\text{-}6}$ in (5) which facilitates the retrieval of feminine nouns provided with the

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similar to Milanese "le vocali finali sono state talvolta reintegrate per ragioni morfologiche" (§143) [the final vowels are sometimes reintegrated for morphological reasons] and "[n]elle zone in cui la vocale finale s'è indebolita a ə, o è totalmente caduta, è ben comprensibile come siano avvenute ricostruzioni erronee" (§353) [in the areas where the end vowel was weakened to ə or even completely lost it is well understandable that erroneous reconstructions took place]. Furthermore, in Milanese the radical completion of this latter process is witnessed also by the sporadic insertion of a final *a* after certain consonant clusters independently of any morphological condition like in *giandarma* "police officer(s) (MASC)", *governa* "government(s) (MASC)", *perla* "pearls (FEM)", etc. Notice that also Salvioni makes reference to this phonological insertion to account for the extension of *-a* to the singular of feminine nouns, insofar as it might have favored the morphological process depicted above in the text. Finally, the high number of feminine nouns which entered the IC-6 (e.g., *dota* "dowry", *acquavita* "spirit", *spezia* "species", *similitudena* "similitude", etc.) makes it rather improbable that all these nouns changed inflectional class before the phonological deletion of final vowels, i.e. in a Proto-Milanese or Common-Romance stage as suggested by the reviewer.

corresponding extra-morphological properties. This reduces the overall markedness of the system because the gender assignment proceeds in a straightforward way compared to what happens with nouns like *mur* or *red* which are both covered by the general PSC responsible for the IC-1:

(6) $PSC_{IC\text{-}1}$: [N] ⊃ [PL/-Ø]

Given the relevance of gender for agreement, the speakers apparently prefer to encode it overtly by means of an extra-morphological property facilitating its detection, even at the expense of the costlier subtractive marking which is extended to **carn*/*carn* > *carna*/*carn*, etc.

Finally, a third PSC centering on animacy decides for the selection of the *i*-plural:

(7) $PSC_{IC\text{-}2/5}$: $\begin{bmatrix} N \\ +ANIM \end{bmatrix}$ ⊃ [PL/-*i*]

Abstracting away from the two small classes IC-3 and IC-4, which only contains masculine nouns displaying idiosyncratic allomorphies, the three PSCs are ordered on the basis of their increasing specification of extra-morphological properties: $PSC_{IC\text{-}1}$ > $PSC_{IC\text{-}2/5}$ > $PSC_{IC\text{-}6}$, while the $PSC_{IC\text{-}1}$ can be considered the default-class in the light of its generality or absence of specification.

On the other hand, it must be added that in other varieties which are close to Milanese such as Bergamasco (cf. Lurati 2002: 246) the subtractive marking resulting from phonological change has been eliminated by restoring the plural suffix *-i*, i.e. through the collapse of $PSC_{IC\text{-}2/5}$ and $PSC_{IC\text{-}6}$. This clearly goes in the direction of increasing the degree of iconicity of the system because the more iconic substitutive marking replaces the less iconic subtractive marking: *scarsela* "pocket"/*scarsel* "pockets" > *scarsela*/*scarseli* similar to *dona* "woman"/*doni* "women".

Two conclusions can be drawn from this case. First, an arguably natural morphological change intended as a language improvement or markedness reduction can militate in favor of contra-iconic marking, i.e. can have an utterly unnatural effect. As observed by Wurzel (1987: 71), "system-independent naturalness can induce morphological change only if this does not contradict system-congruity". However, this conclusion is tempered by an "ecological" tendency towards the overall sustainability of the system, in which on the one hand in Milanese an important role is played by the occurrence of the article which helps speakers identify gender, while on the other the ICs are preferably anchored to easily detectable PSCs. Thus, System Adequacy aims at maximizing the lexical recoverability of the inflectional behavior by means of PSCs, even if this is done at the expense of the universal naturalness represented by subtractive coding. Although it remains to be understood how far this dialectic tension between System Adequacy and the universal naturalness relating to the Principle of Iconicity can go, this conclusion is quite comforting, because it provides an optimal base on which we can attempt to understand what are the limits that a morphological system can sustain. In this regard, Baerman, Brown and Corbett (2005: 170) take up the distinction between system-dependent and universal naturalness insofar as the former is language-specific and typically results from phonological change while more

widespread patterns of syncretism usually reflect "common or universal elements of feature structure" which "are available to all languages".

Second, by enhancing the lexical coverage of a PSC through the generalization of its extra-morphological properties an important side-effect is reached, namely the reduction of the feature-less specification for gender assignment which was only recovered via its effect on agreement. This contributes to the simplification of the morphological system, insofar as the reach of a well-motivated PSC gets enlarged, even if in some cases the system can become more complex as a whole, because this is done at the expense of the default-rule.

3. Against relevance

In a similar vein, the Principle of Relevant Order is reported in the Universals Archive as Universal 415 taken from Bybee (1985), and specified as achronic and statistical, though no counterexample is given:

> **Universal 415**: "Affixes are ordered so that their increasing distance from the stem reflects decreasing semantic relevance to it".

While the U415 expresses a structural boundary on synchronic stages of a language, in the light of the Diachronic Maxim we would not expect to find morphological changes which explicitly run in the opposite direction against Relevance, namely where an affix displaying a higher degree of relevance with regard to the stem is moved towards the external margin of the word.

From a synchronic point of view, a clear counterexample to the U415 is found in several Dutch dialects, for instance in Genk (8a) in the South-Western region of Flanders and in Groningen dialects (8b) in the homonymous Northern province of Netherlands, in which the past suffix occurs externally with respect to the person suffix (cf. Goossens & Verheyden 1970; van Loon 2005: 115):

(8) a. *dich werg-s-de* "you work-2SG-PST"
b. *bak-s-te* "bake-2SG-PST"
bak-ng-de "bake-PL-PST"

This is particularly annoying because person affixes are clearly an instance of what Booij (1996) has called contextual inflection with regard to tense suffixes representing inherent inflection, because the former are contextually determined by the syntactic environment, i.e. the agreement with the subject. For our purposes, the question is how these forms are to be interpreted. Namely, whether they result from a morphological change expressly violating the Principle of Relevance similar to the case of Milanese, i.e. a hypothetical change **werg-de-s > werg-s-de*. Or whether they rather represent the outcome of other changes not related to Relevance, as we have seen above in the case of Hessian.

At least for the variety of Groningen, different explanations have been suggested for the single word forms, which are basically related to phonological changes (cf. Reker 1988). As for the 2nd pers.sg. *bakste*, the trigger of the change has to be sought in a common process whereby the subject pronoun *du* "you" underwent a process of grammaticalization through a cliticization stage and turned out to be attached as a suffix at the edge of the phonological word φ (9a). Subsequently, the occurring sequence resulted from haplology (9b):[4]

(9) a. $[[[bak\text{-}te]_{\text{PST}}\ \text{-}s]_{2\text{SG}}]_{\omega}\ [du]_{\omega}\ >_{\text{Clitic}}\ [[[[bak\text{-}te]\ \text{-}s]]_{\omega}\ [\text{-}te]]_{\varphi}$
b. $[[[[bak\text{-}te]\ \text{-}s]]_{\omega}\ [\text{-}te]]_{\varphi}\ >_{\text{Hapl}}\ bak\text{-}Ø\text{-}s\text{-}te$

The case of the past plural *bakngde* is more complicated insofar as a number of phonological constraints plays a role. In fact, in Groningen a sequence of a schwa vowel and a nasal in a syllable coda (10a) as well as of two stops before a syllabic nasal (10b) is generally avoided:

(10) a. Constraint_1: *ən]$_{\sigma}$
b. Constraint_2: *[+ stop] [+ stop] n̩]$_{\#}$

The interaction of these two constraints has the effect of creating a homonymic clash, because the expected past tense form **bakten* is reduced to **bakng* which exactly corresponds to the normal plural form of the present tense of the verb (11a):

(11) a. PST.PL *bak-te-n* $>_{\text{Cons1}}$ *bak-tØ-n̩* $>_{\text{Constr2}}$ *bak-Ø-ŋ̩* ↓ HomClash
PRS.PL *bak-ŋ̩*
b. PST.PL *bak-ŋ̩* $>_{\text{SuffRest}}$ *bakŋ̩-de-n* $>_{\text{Constr1}}$ *bakn̩de*

The crucial step consists in the restoration of the past and of the plural suffix with the aim of avoiding the homonymic clash: **bakng-de-n* (11b); finally, in agreement with the Constraint_1 the final nasal is deleted giving rise to *bakngde*. If we adopt this – admittedly tricky – explanation, then this case provides a counterexample to the U415, but it does not falsify the Diachronic Maxim because – similar to the Hessian plural – no

4. A different explanation which has been suggested for the Western (in particular in the French Flanders) dialects (cf. Ryckeboer 1973; Taeldeman 2011) relates the suffix *-ste* to the expansion of the final ending of the past form of the class of preterite-presents: *dorste* "dared", *moeste* "must (past)", *wiste* "knew", etc., allegedly sustained by the occurrence of a similar suffix *-ste* in several instances of word-formation (e.g., result nouns like *brouwste* "brew", *broedste* "brood", quality nouns like *ruimste* "width", *schoonste* "beauty", and ordinal numbers like *vierste* "fourth", *vuufste* "fifth", etc.). While it is possible that this explanation can be extended to this case, it should be stressed that in those dialects the suffix *-ste* is regularly found through the whole past form: *makste* "made.SG/2PL" / *makste-n* "made-1/3PL" (cf. Roos 2009: 123). This makes the case of these dialects essentially different from the Groningen dialect. Notice that in Groningen Reker (1988) records the form *wiznde* "knew" which reflects the extension of *-nde* found in *bakngde* even to the class of preterite-presents and weakens the hypothesis that the latter might have served as an analogical model for the weak past form.

morphological change can be observed which actively militates against the Relevance Principle. On the contrary, the only morphological change which has allegedly taken place has the effect of restoring the relevant order by adding a past and a plural suffix.[5]

On the other hand, in other varieties of Dutch other forms occur which cannot be explained away with the help of phonological changes. For instance, in Rotterdam and in further places in the province of South Holland forms like *merk-tie-de* "notice-3SG-PAST", *speel-die-de* "play-3SG-PAST" occur besides the more conservative variants *merkte die* "noticed he", *speelde die* "played he" (cf. de Wilde-van Buul 1943: 301; Weijnen 1958: 224), which are a clear anti-relevant innovation as no effect of the phonological constraints in (10) can be observed and clearly involve incorporation of the clitic pronoun. Note that in the Western dialects this effect is found – besides in the past tense (12a) – in other verb forms (12b) as well as in child language acquisition (12c) (cf. Barbiers 2013: 913–914):

(12) a. *gisteren wandel-die-de door het park*
yesterday walk-3SG-PAST through the park
"yesterday he walked through the park"

b. *nu ga-me-n naar huis*
now go-1PL-PL to house
"now we go home"

c. *dan noem-ik-te jou Sinterklaas*
then call-1SG-PAST you St-Nicholas
"then I would call you Sinterklaas"

Most likely, the forms *baksde* and *bakngde* found in Groningen are due to a reanalysis which – independently of their phonological origin as reconstructed by Reker – must have favored the extraction of a pattern analogy:

(13) SG 1/3PS. *bak-Ø-de*
2PS. *bak-s-de*
PL *bak-ng-de*

On the basis of the forms *bak-s-de* and *bak-ng-de*, which were the only one to overtly encode person and number, a new word structure was inferred in which an empty position for the person/number marker before the tense marker is assumed *bak-Ø-de*, creating the sequence of contextual before inherent inflection:

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5. Also in this case the form *-nde* is found in several Western (in particular in the Zeelandic) dialects and has been accounted for by making reference to a false reanalysis of the past tense which was reinterpreted as containing the verb stem and the initial schwa of the original suffix as an infinitive: *mak-ede* "made" → *mak-e-de*. Subsequently, the infinitival ending *-n* of written Standard Dutch was imported into the weak past tense, first into spelling and finally into the pronunciation as well: [maːkədə] /maːk+ə+də/ → [maːkəndə] /maːk+ən+də/ (cf. Roos 2009: 121). However, in those dialects the form containing *-nde* occurs through the whole past form: *makende* "made.PST.SG" / *makende-n* "made.PST-PL" while in Groningen the form *-nde* is limited to the plural.

V_{Stem}-TENSE-PERS/NUM > V_{Stem}-PERS/NUM-TENSE

In this way, the old word structure has been reshaped on the basis of the new pattern and subsequently extended to other cases of cliticized pronouns as shown by *wandeldiede* or *noemikte*. The reanalysis has created a new System Adequacy which is further expanded despite the conflict with the Relevance Principle.

4. Conclusion

In this paper, contra-iconic and anti-relevant morphological changes have been discussed, which seem to put into question the nice picture of "ordered variation" resulting from the effect of universal principles such as Iconicity and Relevance.

The rationale underlying both cases has to be sought in a conflict between such universal principles and what Wurzel (1984) has called System Adequacy, namely the tendency of an inflectional system towards improving its internal consistency. The effects of System Adequacy result into a more economic, i.e. less costly, representation of morphological information, even at the expense of the violation of universal principles as shown by contra-iconic and anti-relevant coding strategies. Notice in particular that a new System Adequacy can be created by an analogical process of re-functionalization of the word structure which has become largely opaque as a result of phonological changes. Such a re-functionalization exploits the chaotic distribution of inflectional markers which are "exapted" into a new word-structure further extended to other forms like *wandeldiede* or *noemikte*. As has been recently pointed out, exaptive changes give typically rise to "spandrels", namely forms originally born with a certain function which turn out to carry out a different one (cf. Gaeta 2016). If we adopt Reker's (1988) account, this might have been the history of the marker *-te* in Groningen which is likely to go back to a clitic pronoun, agglutinated and reused as a tense marker.

On the other hand, System Adequacy can also be seen as the manifestation of a more general tendency which has been called "Stabilization" by Maiden (1998: 251):

> [O]pacity in the internal structure is not inherently 'unnatural'. Rather, what is 'unnatural' are complications of morphological structure which are lexically erratic and grammatically unpredictable: the 'natural' response to such a state of affairs will be to 'stabilize' the system in such a way that morphological structure becomes predictable on purely morphological grounds.

However, it remains to be understood how far the friction between universal and system-specific complexity – in other words, between the Diachronic Maxim and the System Stabilization – can go, especially with regard to the quest for universal principles accounting for the possible variation tolerated by inflectional systems.

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